Clinical microbiological case: a skin lesion on the left foot in a Dutch traveler returning from Thailand

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Please refer to the article on pages 864–865 of this issue to view the questions to which these answers refer.

CLINICAL OUTCOME

Chest radiograph and laboratory data, including eosinophil cell count, showed no abnormalities. Serologic testing for *Strongyloides* spp. *and* filariasis were negative.

Diagnosis was easily made because of the typical clinical picture.

Treatment with albendazole 400 mg twice daily was given for 5 consecutive days. Upon treatment, the creeping eruption immediately stopped and pruritus disappeared within 1 day, followed by the gradual offset of the eruption within 6 weeks, as illustrated (Figure 1).

At follow-up, there has been no recurrence.

DIAGNOSIS

Cutaneous larva migrans (creeping eruption).

DISCUSSION

1. Cutaneous larva migrans (creeping eruption) is the most frequent serpiginous skin disease among travelers returning from tropical countries [1–3].

Cutaneous larva migrans is caused by the larval forms of nematodes, most commonly dog and cat hookworms (*Ancylostoma caninum and A. braziliense*) [3–5]. *A. caninum*, *Uncinaria stenochepala*, *Bunostomun phlebotomun*, or the human larvae of *Necator americanus* and *A. duodenale*, are rarer causes [4,5].

These hookworms generally live in the intestines of dogs and cats, and shed their eggs via feces to soil (usually sandy areas of beaches or under houses).

Humans can become accidental hosts by being infected in tropical and subtropical areas of endemicity, by contact with soil contaminated with feces from infected animals. The hookworm larvae hatch from the eggs and are able to penetrate the intact skin, but remain confined to the upper dermis. The larvae are not able to complete their life cycle within humans, and die after weeks or months. Consequently, cutaneous larva migrans usually heals spontaneously within 1–11 weeks [6], but the larvae have been known to migrate for up to 2 years [7].

2. The typical clinical picture is characterized by an intensely pruritic, linear, winding, serpiginous track known as a creeping eruption due to larval migration through the skin [3–5]. Usually, these pathognomonic findings make diagnosis easy, and microscopic examination of creeping eruption lesions is not needed to clarify the diagnosis [4,5].

3. Potential complications, including impetigo and local and general allergic reactions (Loeffler syndrome), together with intense pruritus and extended duration of the disease make treatment mandatory [3–5].

4. Treatment with both albendazole and ivermectin has been strongly recommended for creeping eruption (A II recommendation rating). The evidence for the recommendation is based on clinical trials [3–5].

In the present case, cutaneous larva migrans was successfully treated with albendazole. A daily dosage of 800 mg/day instead of 400 mg/day was given, because cure rates of 100% have been demonstrated in all trials of albendazole in cutaneous larva migrans with use of this daily dosage [3]. The duration of therapy of 5 days in our subject can be debated, since a duration of 3 days yielded 100% cure rates in previous studies using the same daily dosage [3].

Cutaneous larva migrans can also be effectively treated with 12 mg of ivermectin. This has given reported cure rate of 81–100%, without major adverse side effects. However, unlike albendazole, ivermectin is not immediately available in our hospital.

Alternative therapy with topical thiabendazole was not chosen, because it requires repeated applications throughout the day, sometimes leads to local irritating reactions, and is often followed by recurrence [3,4]. Therapy with oral thiabendazole was not given, because it is poorly effective when given as a single dose (cure rate 68%-84%) [3] and is less well tolerated than either albendazole or ivermectin when given for a longer period [3–5].

5. Prevention of cutaneous larva migrans in tourists traveling to tropical countries includes wearing shoes when walking in sandy areas and avoiding lying on dry sand, not washed by the tide, even on a towel [3–5].

Although the incidence of cutaneous larva migrans is unknown, new surveillance systems (such as GeoSentinel, a system of the International Society of Travel Medicine and the Centers for Disease Control and Prevention (http://www. istm.org/geosentinel/main.html), and TropNetEurop, the European Network on Imported Infectious Disease surveillance (http://www.tropnet. net)) are beginning to yield data on travel-associated illness [2].

Cutaneous larva migrans may become increasingly common in European countries as more people travel to tropical countries on holiday. Rarely, cutaneous larva migrans can also be contracted in northern European countries, including the UK, Germany and France, particularly during warm weather [8]. This makes it essential that practitioners recognize the disease and treat it appropriately.

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